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10/071,731	02/07/2002	Joseph Carrabis	13200/60134	2985

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EXAMINER

CHANNAVAJJALA, SRIRAMA T

ART UNIT	PAPER NUMBER
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2164

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/071,731

**Applicant(s)**

CARRABIS, JOSEPH

**Examiner**

Srirama Channavajjala

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. Examiner acknowledges applicant's response filed on 11/4/2004.

***Drawings***

2. The drawings filed on 2/7/2002 is acceptable for examination purpose.

***Priority***

3. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged based on the provisional application SI.No. 60/329,770 filed on 10/16/2001
4. Examiner notes that applicant filed international application no. PCT/US02/32980 on 10/16/2002 is now published WO 03/034284A1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4,6,8,10-12,14,16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rise, US Patent No. 6,018,682 in view of Lieberman, US Patent No.5682882.

6. As to Claims 1,8 12,18 Rise teaches a system which including 'method of obtaining information regarding an environment for an individual having preferred

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modalities and engaged in activity using a programmable device' [see Abstract, fig 3, col 1, line 10-17], environment for an individual corresponds to Rise's recurrent seizures which are the outward manifestation, 'sensing at least one psychomotor behavioral element of the activity engaged by the individual' [col 2, line 61-67, col 3, line 1-3, fig 3], Rise specifically teaches for example sensor element 20 that produces physiological signal based on specific environment for an individual that corresponds to sensing or detecting onset of seizures, 'psychomotor behavior element of the activity engaged by the individual' [col 5, line 30-47], however, Rise does not specifically teach "determining the preferred modalities of the individual'. On the other hand, Lieberman teaches a system which including 'determining the preferred modalities of the individual' [see Abstract, col 3, line 38-47].

It would have been obvious to one of the ordinary skill in the art at the time of applicants invention to incorporate the teachings of Lieberman into implant able warning system of Rise because both are directed to sensory stimulation to the individual that related to electrical, chemical and physiological activity of a person [see Rise: Abstract, col 3, line 42-45; Lieberman: Abstract, col 3, line 32-38]. One of the ordinary skill in the art at the time of applicants invention would have motivated to combine the reference because that would have allowed users of Rise's implant able warning system to control which relative combinations of individual behavioral elements of the activity satisfies his or her needs as suggested by Lieberman [col 3, line 60-64].

7. As to Claim 2, Rise teaches a system which including 'modifying at least one modifiable environmental unit to at least partially conform to the preferred modalities' [col 5, line 12-20].

8. As to Claim 3, Rise teaches a system which including 'environment unit is modified in real-time' [col 5, line 38-47].

9. As to Claim 4, Rise teaches a system which including 'storing the sensed psychomotor behavioral element in a user history' [col 7, line 64-67, col 8, line 1-7].

10. As to Claim 6, the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Rise teaches defining a focus of the individuals attention' [col 8, line 8-17].

11. As to Claim 10, the limitations of this claim have been noted in the rejection of claim 1 above. And in addition, Rise teaches 'multi-dimensional and has a plurality of modifiable environmental units' [col 8, line 51-61].

12. As to Claim 11, the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Rise teaches 'psychomotor behavioral element' [see fig 3-4].

13. As to Claim 14, 16 the limitations of this claim have been noted in the rejection of above claim 1 and 12. In addition, Rise teaches 'store sensed psychomotor behavioral

activity of the individual' [col 6, line 4-10, col 7, line 64-67].

14. As to Claim 17, the limitations of this claim have been noted in the rejection of above claim. In addition, Rise teaches 'environmental unit includes at least one output device' [see fig 3-4].

**15. Claims 5,7,13,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rise, US Patent No. 6,018,682 and Lieberman, US Patent No.5682882 in view of Lamblin, US Patent No. 5717825.**

16. As to Claim 5,13,15, Rise teaches a system which including 'sensed psychomotor behavioral element is stored' [see fig 3, co 4, line 41-52], it is noted that both Rise and Lieberman do not specifically linear algebraic transforms'. On the other hand, Lamblin teaches algebraic transforms' [see Abstract, col 4, line 65-67, col 5, line 1-14, line 57-66].

It would have been obvious to one of ordinary skill in the art at the time of applicants invention to combine the Lamblin's algebraic code excited linear predication speech coding with Rise and Lieberman because that would have allowed users of Rise and Lieberman to analyze various waveforms that related to psychomotor behavior of humans bring the advantages of analyzing specific samples improving overall system quality.

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17. As to Claim 7, the limitations of this claim have been noted in the rejection of claim above. In addition, Lamblin teaches 'co-ordinate group of representational geometry' [see col 6, line 53-59].

**18. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rise, US Patent No. 6,018,682 and Lieberman, US Patent No.5682882, Lamblin, US Patent No. 5717825 as applied above claim 6 further in view of Darrell et al., [hereafter Darrell], US Patent No. 6188777.**

It is however, noted that Rise,Lieberman, Lamblin do not teach 'modalities calculation', although Lamblin teaches coordinate group of representational geometry as detailed in col 6, line 53-59. On the other hand, Darrell suggests 'modalities calculation' [col 10, line 48-67, col 11, line 1-15]

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of modalities calculation into the combination of Rise,Lieberman, Lamblin because that would have allowed users of Rise,Lieberman, Lamblin to use computation modules to receive data, estimate real time modality calculation as detailed in col 10, line 45-67, col 11, line 115], thus improving reliability and versatility of the system.

***Response to Arguments***

19. Applicant's arguments filed on 11/4/2004 have been fully considered but they are not persuasive, for examiner's response, see discussion below:

a) At page 4, at page 13, claim 1, claim 12, applicant argues that 'Rise does not teach sensing psychomotor behavioral elements'

As to the above argument [a], as best understood by the examiner, firstly Rise is directed to techniques for early warning to a patient or individual of possible behavioral change for example possible seizure[s] using sensor, [see col 2, line 61-67, col 3, line 1-3, fig 3], secondly, sensors primarily used to recognize and record pattern that clearly indicate behavioral change, hence Rise teaches sensing psychomotor behavioral elements associated with pattern indicating behavioral change. It is furthermore noted that applicant discussed both psychological as well as neurological activities with respect to psychomotor behavior in the disclosure, for example specification, at page 5, 0048, examiner interpreting psychomotor behavioral activity of individual corresponds to sensing, producing physiological signal based on specific behavior conditions of Rise as detailed in col 2, line 61-67, col 3, line 1-3].

b) At page 5, at page 14, claim 1, claim 12, applicant argues that "Rise does not teach, disclose, or suggest sensing at least one psychomotor behavioral activity'.



As to the above argument, as best understood by the examiner, Rise specifically suggests sensing, signal generation of physiological activity of a patient especially possible behavioral change as detailed

c) At page 6, at page 15, claim 1, claim 12, applicant argues that Lieberman does not teach, disclose, or suggest determining preferred modalities of the individuals

As to the argument [c], as best understood by the examiner, Lieberman is directed to vigilance monitor system, more specifically monitoring, providing early warning of mental and physical performance of individual [see Abstract], modalities of individuals dependent on environmental condition, responsiveness of the individual as suggested in col 3, line 38-44, therefore, it would have been obvious to one of the ordinary skill in the art the time of applicant's invention to incorporate the teachings of Lieberman into early sensing, warning of possible patient behavior of Rise because both Rise and Lieberman are directed to monitoring, recoding of patient behavior pattern and early warning system [see Rise: Abstract; Lieberman: Abstract, col 4, line 8-16] and are from same field of endeavor. One of the ordinary skill in the art at the time of applicants invention would have motivated to combine the reference because that would have allowed users of Rise's implantable warning system to monitor, control individual behavioral elements or parameters of the activity that satisfies his or her needs as suggested by Lieberman [see col 3, line 60-64].

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d) At page 7, claim 2, applicant argues that 'particularly, the environment of an individual is modified in response to the programmable device's determination of the preferred modalities of the individual, it is unclear how a sensor can be used to modify an environmental unit...

As to the above argument [d], as best understood by the examiner, sensor is not used to modify an environmental unit, but primarily sensor may sense physiological changes, while chemical sensor which is inside the body or implanted may sense or detect chemical substance, therefore, it is clear that modifiable environmental may be based on either chemical sensor implanted in the body or physiological changes which is physically located outside the body [see col 5, line 45-47].

e) At page 8, claim 4, applicant argues that "Rise does not appear to teach storing sensed information'.

As to the above argument [e], as best understood by the examiner, Rise specifically suggests certain key parameters values are stored in memory of the implanted device as detailed in col 7, line 64-67.

f) At page 8, claim 5, applicant argues "applicant does not see teaching, disclosure, or suggestion in Rise, Lieberman, or Lamblin to store the sensed psychomotor behavioral elements in the form of linear algebraic transforms'.

As to the above argument [f], In the office action, examiner specifically stated that both Rise and Lieberman do not teach liner algebraic transform', although both Rise, Lieberman sensing, converting signal from analog to digital for further processing digital signal [see Rise: fig 3; Lieberman:fig 2], while Lamblin directed to digital coding, specifically linear prediction coding method employing algebraic codebook or algebraic transforms for possible sampling of pulses and pulse positions to analyze various waveforms. Therefore, it would have been obvious to ordinary skill in the art at the time of applicant's invention to combine the references because that would have allowed users of Rise, Lieberman to analyze various waveforms that related to psychomotor behavior aspects.

g) At page 10, claim 6, applicant argues that "Rise passage is capturing a person's attention, while the applicant is claiming, in this limitation, seeing where the person's attention is focused'.

As to the above argument [g], as best understood by the examiner, if the sensed particular parameter is directed to provide information related to seizure alert, then that particular individual attention is focused about possible behavior change [see col 8, line 15-17], therefore, Rise not only capturing possible individual's attention, but also alert individual's attention is focused.

h) At page 11, claim 7, applicant argues that applicant does not see teaching, disclosure, or suggestion in Rise, Lieberman, or Lamblin that would suggest the data therein could be better analyzed through the use of liner algebraic transforms.

As to the above argument [h], as best understood by the examiner, both Rise and Lieberman do not teach liner algebraic transform', although both Rise, Lieberman sensing, converting signal from analog to digital for further processing digital signal [see Rise: fig 3; Lieberman:fig 2], while Lamblin directed to digital coding, specifically linear prediction coding method employing algebraic codebook or algebraic transforms for possible sampling of pulses and pulse positions to analyze various waveforms, furthermore, Lamblin also teaches digital signal sampling, calculating linear prediction of order [col 6, line 53-59].

i) At page 8, claim 8, applicant argues that neither Rise, nor lieberman teach, disclose, or suggest a psychodynamic behavioral model or a cognitive behavioral model.

As to the above argument [I], as best understood by the examiner Rise suggests psychomotor behavior elements [see col 5, line 3-47], further a typical psychodynamic behavior related to explaining abnormal behavior such as possible seizure.

Examiner applies arguments claim 1,12 arguments to dependent claims 13-18.

j) At page 15, claim 14, Rise does not teach storing sensed psychomotor behavioral activity on a memory device.

As to the above argument [j], as best understood by the examiner, Rise specifically suggests certain key parameters values are stored in memory of the implanted device as detailed in col 7, line 64-67

k) At page 16, claim 15, applicant argues that Lamblin does not teach, disclose, or suggest calculating preferred modalities, nor does Lamblin teach, disclose, or suggest using stored sensed data for refining such a calculation.

As to the above argument [k], as best understood by the examiner, Lamblin specifically teaches memory-stored components of the matrix of digital sampling pulse information i.e., calculating the correlation vectors and correlation matrices as detailed in col 5, line 57-66].

l) At page 17, claim 16, applicant argues that "Rise does not teach calculating preferred modalities while sensing psychomotor behavioral activity'.

As to the above argument [l], as best understood by the examiner, although Rise specifically teaches sensor data in different ways based on parameters sensed , at minimum Rise teaches digital signal processing algorithm that calculates psychomotor behavioral activity [see col 6, line 4-10].

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

**Conclusion**

**The prior art made of record**

a.	US Patent No.	6,018,682
b.	US Patent No.	5682882
c.	US Patent No.	5717825
d.	US Patent No.	6188777

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

e.	US Patent No.	4916745
f.	US Patent No.	6520905
g.	US Patent No.	6622140
h.	US Patent No.	6091826
i.	US Patent No.	6341267
j.	US Patent No.	4699153
k.	US Patent No.	6067565
l.	US Patent No.	6346879
m.	EP0855199	
n.	Sung-youn Kim et al. "A cognitive/affective model of	

strategic behavior-2-person repeated prisoner's dilemma game", 2 pages

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o. Maria Tulberg, "deadweight or turbokick?", paper for presentation at the second national open conference on group and social psychology, Lund 18-19 may 2000

p. Karthik Balakrishnan et al. "Spatial learning and localization in animals: a computational model and behavioral experiments.

q. Ashish Kapoor et al. "Probabilistic combination of multiple modalities to detect interest", 4 pages.

r. Simon R.Goerger , "Validating human behavioral models for combat simulations using techniques for the evaluation of human performance, SCSC 2003, pp 737-747



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popvici, can be reached on 571-272-.4083. The fax phone numbers for the organization where the application or proceeding is assigned is 703/872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

SC  
*Patent Examiner.*  
February 8, 2005.

  
SRIRAMA CHANNAVAJJALA  
PRIMARY EXAMINER